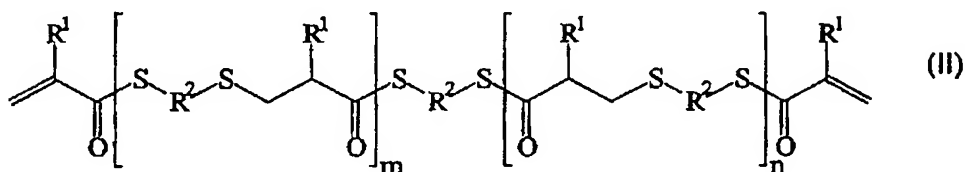


AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

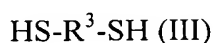
Claim 1 (Currently Amended): A mixture for the production of transparent plastics, comprising:

a) a prepolymer, produced from compounds of the formula (I) and (II)



wherein R^1 each independently of one another mean hydrogen or a methyl residue,

R^2 each independently of one another mean a linear or branched, aliphatic or cycloaliphatic residue or a substituted or unsubstituted aromatic or heteroaromatic residue and m and n each independently of one another mean a whole number greater than 0 with $m + n > 0$, and alkylthiols or polythiols,



wherein R^3 can similarly or differently from R^2 have the meaning stated in R^2 , and

b) at least one radical polymerizable monomer (A) with at least two methyl acrylate groups; and

c) aromatic vinyl compounds,

d) optionally, a radical polymerizable monomer with at least two terminal olefinic groups, which differ in reactivity, ~~and/or~~

e) optionally, at least one ethylenically unsaturated monomer (B);

f) or optionally, a mixture of d) and e); and

g) an asymmetric crosslinker which is a radical polymerizable monomer with at least two terminal olefinic groups which differ in reactivity, of the general formula



wherein

the residue R¹⁹ independently means a hydrogen atom, a fluorine atom and/or a methyl group,

the residue R¹⁸ is a linking group which contains 1 to 1000 carbon atoms, and the residue Y is a linkage or a linking group with 0 to 1000 carbon atoms and does not contain a carbonyl group directly connected to a carbon atom of the terminal olefinic group and directly connected to the oxygen adjacent to the residue Y in formula (XII).

Claim 2 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that it contains~~ which comprises more than 10 mol.% of compounds of the formula (II) with $m + n = 2$, based on the total quantity of the compounds of the formula (I), (II) and (III).

Claim 3 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that wherein~~ the residue R² of the formulae (I) and/or (II) is an aliphatic residue with 1 to 10 carbon atoms.

Claim 4 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that which comprises~~ the mixture contains more than 5.8 mol.% of compounds of the formula (II) with $m + n = 3$, based on the total quantity of the compounds of the formula (I), (II) and (III).

Claim 5 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that which comprises the mixture contains~~ 1 to 50 mol.% of compounds of the formula (I), based on the total quantity of the compounds of the formula (I), (II) and (III).

Claim 6 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that which comprises the mixture contains~~ 1 to 40 mol.% of compounds of the formula (II) with $m + n = 1$, based on the total quantity of the compounds of the formula (I), (II) and (III).

Claim 7 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that which comprises the mixture contains~~ compounds of the formula (II) with $m + n > 3$.

Claim 8 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that wherein a~~ the total content of compounds of the formula (I), (II) and (III) is at least 5.0 wt.%, based on the total weight of the mixture.

Claim 9 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that which comprises the mixture contains~~ at least one monomer (A) which is copolymerizable with the prepolymers prepared from the monomers of the formulae (I), (II) and (III).

Claim 10 (Currently Amended): The mixture as claimed in claim 9, ~~characterized in that which comprises the mixture contains~~ di(meth)acrylates.

Claim 11 (Currently Amended): The mixture as claimed in claim 1, ~~characterized in that which comprises the mixture preferably contains~~ styrene as aromatic vinyl compounds.

Claim 12 (Canceled):

Claim 13 (Currently Amended): The ~~mixtures-~~ mixture as claimed in claim 1 ~~12~~,
~~characterized in that~~ which comprises ~~they contain~~ allylpolyethylene glycol methacrylate.

Claim 14 (Currently Amended): The ~~mixtures-~~ mixture as claimed in claim 1,
~~characterized in that~~ which comprises ~~they contain~~ at least one ethylenically unsaturated
monomer (B).

Claim 15 (Currently Amended): The ~~mixtures-~~ mixture as claimed in claim 14,
~~characterized in that~~ which comprises ~~they contain~~ 2-hydroxyethyl methacrylate.

Claim 16 (Currently Amended): A process for the production of transparent plastics,
~~characterized in that~~ comprising polymerizing a mixture as claimed in claim 1 is
~~polymerized~~.

Claim 17 (Currently Amended): A transparent plastic ~~obtainable~~ obtained by a
process as claimed in claim 16.

Claim 18 (Currently Amended): The plastic as claimed in claim 17, ~~characterized in~~
~~that~~ wherein a ~~the~~ refractive index of the plastic according to DIN 53491 is greater than 1.59.

Claim 19 (Currently Amended): The plastic as claimed in claim 17, ~~characterized in~~
~~that~~ wherein an ~~the~~ Abbé number of the plastic according to DIN 53491 is greater than 36.

Claim 20 (Currently Amended): The plastic as claimed in claim 17, ~~characterized in that wherein a~~ the mean value of the diameter of ~~the~~ a ball which does not damage a the test specimen in ~~the~~ a falling ball test is ≥ 18 .

Claim 21 (Currently Amended): The plastic as claimed in claim 17, ~~characterized in that wherein a~~ the transmission of the plastic according to DIN 5036 is $\geq 89\%$.

Claim 22 (Currently Amended): The plastic as claimed in claim 17, ~~characterized in that having a~~ its glass transition temperature is of greater than 80.0°C .

Claim 23 (Currently Amended): A mixture, containing:

- (a) a mixture as claimed in claim 1; and
- (b) at least one photochromic dye.

Claim 24 (Currently Amended): A photochromic material, comprising: ~~containing~~ a mixture as claimed in claim 23.

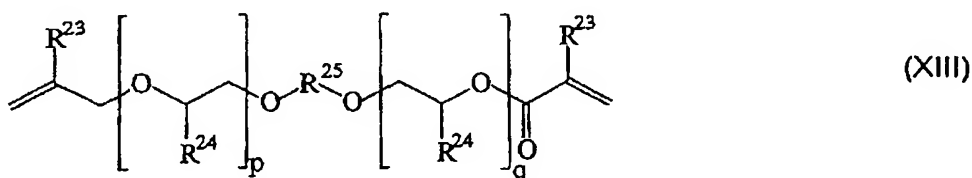
Claim 25 (Currently Amended): A method of using ~~the~~ a photochromic material, comprising:

incorporating said photochromic material as claimed in claim 24 ~~as in~~ in a lens or a glass ~~panes pane or a glass insert inserts.~~

Claim 26 (Currently Amended): ~~The~~ A method of using ~~a~~ the ~~highly~~ transparent plastic, comprising: incorporating said transparent plastic as claimed in claim 17 in as an optical lens.

Claim 27 (Currently Amended): An optical lens, comprising: containing a transparent plastic as claimed in claim 17.

Claim 28 (New): The mixture as claimed in claim 1, wherein the compound of formula (XII) is a compound of formula (XIII)



or of the formula (XIV)

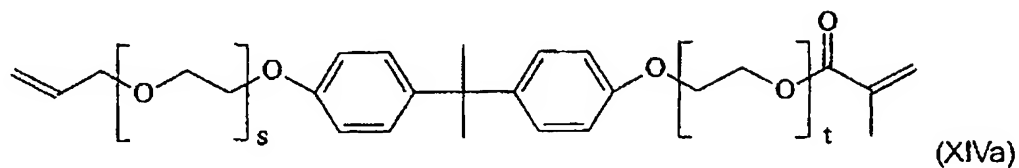


or mixture of formula (XIII) and formula (XIV);

wherein the residues R^{23} and R^{24} each independently of each other are a hydrogen or a methyl residue, and the residue R^{25} designates a linear or branched, aliphatic or cycloaliphatic divalent residue or a substituted or unsubstituted aromatic or heteroaromatic divalent residue.

Claim 29 (New): A lens, a glass pane or a glass insert, comprising:
the photochromic material as claimed in claim 24.

Claim 30 (New): The mixture as claimed in claim 28, wherein the compound of formula (XIV) is a compound of the formula (XIVa)



wherein s and t are greater than or equal to zero and the sum $s + t$ is in the range from 1 to 20.

Claim 31 (New): The mixture as claimed in claim 28, wherein the compound of formula (XIII) is a compound of the formula (XIVb)



wherein s and t are greater than or equal to zero and the sum $s + t$ is in the range from 1 to 20.